

**REMARKS**

Claims 67-127 are pending in the application.

Claims 67-127 have been rejected.

Claims 67, 85, 101, 110, 122, and 123 have been amended without adding new matter.

Claims 75, 83, and 118 have been cancelled.

**Rejection of Claims under 35 U.S.C. §101**

Claims 101-126 stand rejected under 35 U.S.C. §101 because the claimed invention is purportedly directed to non-statutory subject matter. Applicants respectfully traverse this rejection.

Regarding claim 101, the Office Action states that ¶ 72 of the specification shows that the apparatus is software per se. Office Action, p. 2. As an initial matter, Applicants note that ¶ 72 is the abstract of the specification and does not explicitly refer to software. There is no description in the Abstract or the rest of the Application that limits the present invention to software. By describing the invention as software per se, the Office Action is saying that the invention is inherently software, or necessarily software. Applicants respectfully submit that the disclosure of the present Application provides sufficient hardware implementation of the present invention (*e.g.*, queues, shaping logic, filters, and the like) that establish the invention is not necessarily software implemented and therefore not software per se.

Nonetheless, in order to advance prosecution, Applicants have amended independent claim 101. Applicants respectfully submit that the rejection is overcome, at least, by the amendment to claim 101 to include a processor configured to process data destined for one of a plurality of network stations. Support for this amendment is found, at least, at ¶ 52 of the specification.

Regarding claim 110, the Office Action states that the specification discloses that a computer readable medium includes a communication medium. Office Action, p. 2. Applicants respectfully submit that this rejection is overcome, at least, by the amendment

of claim 110 to recite a computer readable storage medium. Support for this amendment is found, at least, at ¶ 69 of the specification.

Applicants therefore respectfully request the Examiner's reconsideration and withdrawal of the rejections to these claims and an indication of the allowability of same.

*Rejection of Claims under 35 U.S.C. § 103(a)*

Claims 67-127 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Publication No. 2003/0163593 listing Knightly as the inventor ("Knightly") in view of U.S. Patent Number 6,201,792 issued to Lahat ("Lahat") and in further view of U.S. Patent 7,269,662 issued to Takeuchi et al. ("Takeuchi"). Applicants respectfully traverse this rejection. The arguments presented below with respect to independent claim 67 are generally applicable to independent claims 85, 101, and 110, which include substantially similar limitations.

In order for a claim to be rendered invalid under 35 U.S.C. §103, the subject matter of the claim as a whole would have to be obvious to a person of ordinary skill in the art at the time the invention was made. *See* 35 U.S.C. §103(a). This requires: (1) the reference(s) must teach or suggest all of the claim limitations; (2) there must be some teaching, suggestion or motivation to combine references either in the references themselves or in the knowledge of the art; and (3) there must be a reasonable expectation of success. *See* MPEP 2143; MPEP 2143.03; *In re Rouffet*, 149 F.3d 1350, 1355-56 (Fed. Cir. 1998).

Applicants respectfully submit that the proposed combination of Knightly, Lahat, and Takeuchi fails to disclose all of the limitations of independent claim 67, which has been amended to recite:

A method comprising:  
for each of a plurality of media access control (MAC) devices to which data is to be transmitted over a ring topology network, providing a corresponding queue configured to transmit data in a first egress direction and a second egress direction over the ring topology network;  
receiving data, from a local client, destined for a client of a first MAC device of the plurality of MAC devices;  
storing at least a portion of the data in a first queue corresponding to the first MAC device;

receiving information generated by the client of the first MAC device indicating a need to change an amount of data being transmitted to the client of the first MAC device; and  
 selectively transmitting data stored in the first queue to the first MAC device, wherein  
 a rate at which the selectively transmitting is performed is based at least in part on at least a portion of the information indicating the need to change the amount of data being transmitted to the client of the first MAC device, and  
 the selectively transmitting data stored in the first queue further comprises transmitting data stored in the first queue in a selected one of the first egress direction and the second egress direction.

Applicants respectfully submit that the proposed combination fails to disclose at least “for each of a plurality of media access control (MAC) devices to which data is to be transmitted over a ring topology network, providing a corresponding queue configured to transmit data in a first egress direction and a second egress direction.” Support for the amended language of these claims is found at least at ¶ 57 of the specification.

The Office Action admits that Knightly fails to disclose providing a corresponding queue for each of a plurality of media access control (MAC) devices to which data is to be transmitted over a network, as claimed. *See* Office Action, p. 3. The Office Action cites the following portion of Lahat as purportedly supplying this missing disclosure:

A diagram illustrating cell transmission from a multicast queue to a plurality of output queues when none of the output queues are congested is shown in FIG. 2. To illustrate the principles of the present invention, a multicast connection is shown having five designated destinations. The cells received on port A are placed in a multicast queue 50, e.g., cell X. The cell processor in the port interface module associated with port A schedules the transmission of cells, e.g., cell X, in the multicast queue 50 into the switching fabric 30. A cell entering the switch is switched to its respective destinations. In this example the designated destinations include port B, port C, port D, port E and port F. As described previously, although only one copy of cell X exists in the multicast source queue, cell X is replicated to the queues associated with each of the destination ports, i.e., queue 52 in port B, queue 54 in port C, queue 56 in port D, queue 58 in port E and queue 60 in port F. Cell X is output from ports B through F and thus constitutes the egress multicast cell traffic.

Lahat 5:26-43. However, the output queues disclosed in the above passage of Lahat are not comparable to the claimed queues.

First, while the claimed queues are configured to transmit data in a selected first egress direction and a second egress direction, Lahat fails to provide any disclosure that Lahat's queues are so configured. Nor is this disclosure present in Knightly. Knightly's FIG. 3 and ¶ 48 (cited as purportedly disclosing the claimed queue) clearly show data exiting the transit buffer (equated with the claimed queue) by one and only one path, *i.e.*, traffic can only flow from the buffer to the scheduler. Thus, the cited portions of Knightly and Lahat fail to provide any disclosure of queues configured to transmit data in a selected egress direction.

Second, while claim 67 recites that each queue corresponds to a MAC device, the cited portions of Lahat fail to provide any such disclosure. Instead, Lahat discloses queues that are each associated with a multicast output port, which is not the same as a MAC device. Traffic received at a MAC device may be destined for one or more of potentially numerous clients of the MAC device, or may be forwarded by the MAC device (*e.g.*, transit traffic not destined for the MAC device.) On the other hand, cells received at Lahat's destination queues have arrived, by definition, at the cells' destination. That is, the cells in Lahat's destination queues are next transmitted to their egress destinations *See* Lahat 5:44-49. Thus, Lahat's destination queues that are associated with an output port fail to disclose the claimed ports that correspond to a MAC device.

Applicants further submit that the proposed combination of Knightly and Lahat also fails to disclose the claimed limitation of "transmitting data stored in the first queue in a selected one of the first egress direction and the second egress direction." This necessarily follows, at least, from the failure of the proposed combination to disclose queues configured to transmit from a first and second egress direction. Since the proposed combination of Knightly and Lahat fails to disclose queues capable of transmitting in a first and second egress direction, it is unsurprising that the proposed combination fails to disclose selectively transmitting data in one of a first and second egress direction. This limitation was incorporated from cancelled dependent claim 75. The rejection of claim 75 cites Knightly's ¶ 48 as purportedly disclosing this limitation.

See Office Action, p. 7. But as noted, ¶ 48 discloses buffers which transmit in only one direction. And ¶ 48 discloses a scheduler selecting which buffer to transmit from, but fails to disclose selecting between two possible egress directions from a buffer. Nor do the cited portions of Lahat and Takeuchi disclose such capability.

Additionally, Applicants respectfully submit that the proposed combination of Knightly, Lahat, and Takeuchi also fails to disclose the claimed limitation of “receiving information generated by the client of the first MAC device indicating a need to change an amount of data being transmitted to the client of the first MAC device.” The Office Action admits that Knightly fails to disclose “that the client of the first MAC device generates the request to change the amount of data being generated.” Office Action, p. 3. The Office Action cites Takeuchi as purportedly supplying this missing disclosure. See Office Action, p. 4. However, as noted in the previous response (filed April 28, 2008), Takeuchi fails to disclose a client of a MAC device. Instead, Takeuchi merely refers to a client in a generic sense of a client/server network configuration. Takeuchi fails to make any reference to a MAC device, much less to a client of a MAC device.

The Office Action responds to this previous discussion by stating that Takeuchi is not relied upon for the MAC device, only for “an improvement to a network system where the client requests the network to provide his connection with a predetermined amount of resources.” Office Action, p. 11. Applicants respectfully submit that even if Takeuchi could be combined with Knightly and Lahat (a point Applicants do not concede), the resulting system would still not disclose a client of a MAC device generating information indicating a need to reduce the amount of data being transmitted to the client of the MAC device.”

Further, Applicants respectfully submit that Knightly, Lahat, and Takeuchi cannot be combined to form the basis for a § 103 rejection. As noted in MPEP 2142.02, “[a] prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention” (citing *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984)). The Office Action states that Lahat is cited only for its queuing disclosure, and Takeuchi only for the feature of a “client requests the network to provide his connection with a predetermined amount of resources.” Office Action, p. 11.

However, as previously noted by Applicants, Knightly and Lahat use different transmission protocols. Knightly discloses using MAC devices on ring networks, which utilize layer 2 packet transport. On the other hand, Lahat discloses using ATM networks, which use layer 1 cell transport. There is no indication, in either reference, that teachings applicable to a layer 1 transport mechanism are also applicable to a layer 2 transport mechanism. Knightly further explicitly teaches away from using queues such as those disclosed by Lahat. Knightly disparages circuit based network structures, such as Lahat's, stating "use of circuits prohibits unused bandwidth from being reclaimed by other flows and results in low utilization." *See* Knightly, ¶ 6. Knightly also discloses an explicit objective to avoid multiple queues, stating the intent to "avoid expensive...per-ingress queues on the transit path." Knightly, ¶ 49. Not only does Knightly disparage the use of multiple queues, Knightly further teaches away by indicating the complete unsuitability of such a system, stating that "the high speed of the transit path and requirements for hardware simplicity prohibit per-ingress queues." Knightly, ¶ 154 (emphasis added). This statement contradicts the Office Action's assertion that there is no indication that the multiple queues would not be operable when combined with Knightly. Office Action, p. 11. Knightly thus expressly discloses that using multiple queues such as those disclosed by Lahat would render Knightly unsatisfactory for its intended purpose. Therefore, such a combination cannot be the basis of a § 103 rejection. *See* MPEP 2143.01 ("If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification.") (citing *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).

Further, the Office Action posits that it would have been obvious to one of ordinary skill in the art at the time to include Lahat's output queues in Knightly's system "to help ensure all the destination devices are receiving fair weight when scheduling output packets...." Office Action, p. 4. However, Applicants respectfully point out that Knightly already discloses a method of doing so. In fact, a primary focus of Knightly is to do so. *See* Knightly, ¶ 7 ("The key performance objective of RPR is to simultaneously achieve high utilization, spatial reuse, and fairness."). Thus, it is clear that while Knightly was concerned with ensuring that all destination devices received fair weight, using multiple queues was considered and expressly rejected as unsatisfactory. Instead,

Knightly discloses using counters to compute the rate of local traffic at each node and distributing this information to all nodes on the ring. *See* Knightly, ¶ 129. In this manner, per destination queuing is imitated using a FIFO rather than actually being provided. *See* Knightly, ¶ 49. Thus, Knightly clearly teaches away from implementing queues for each MAC device.

Accordingly, for at least the foregoing reasons, Applicants respectfully request the Examiner's reconsideration and withdrawal of the rejections to claim 67 and claims 85, 101, and 110, which contain substantially similar limitations, and an indication of the allowability of same. Applicants further submit that claims 68-74, 76-82, 84, 86-100, 102-109, and 111-117, and 119-127 are allowable at least by virtue of depending from allowable base claims. Applicants therefore respectfully request the Examiner's reconsideration and withdrawal of the rejections to these claims and an indication of the allowability of same.

**CONCLUSION**

In view of the amendments and remarks set forth herein, the application and the claims therein are believed to be in condition for allowance without any further examination and a notice to that effect is solicited. Nonetheless, should any issues remain that might be subject to resolution through a telephonic interview, the Examiner is invited to telephone the undersigned at 512-439-5092.

If any extensions of time under 37 C.F.R. § 1.136(a) are required in order for this submission to be considered timely, Applicants hereby petition for such extensions. Applicants also hereby authorize that any fees due for such extensions or any other fee associated with this submission, as specified in 37 C.F.R. § 1.16 or § 1.17, be charged to Deposit Account 502306.

Respectfully submitted,

/Shawn Doman/

Shawn Doman  
Attorney for Applicants  
Reg. No. 60,362  
Telephone: (512) 439-5092  
Facsimile: (512) 439-5099